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The Role of Resiliency in Stress and Coping Styles

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Abstract

Stress is a prevalent issue for college students and is correlated with worsened health and lower GPA. To deal with stress, college students use adaptive or maladaptive coping strategies. Exploring the effects of resiliency on coping behaviors may help promote using more adaptive coping strategies to deal with stress. Together, resiliency, stress, and coping are understudied. The present study sought to examine the relationship among resiliency, stress, and coping strategies. Participants (N=236, M_{age}=19.62, SD=2.34) were emailed a survey and responded to demographic, stress, coping, and resiliency questions. Coping styles and resiliency did not differ depending on year in college. Neither resiliency nor adaptive coping was higher for upperclassmen than underclassmen. Resiliency was negatively correlated with maladaptive coping and stress but positively correlated with adaptive coping. The mediation effect of resiliency was tested using bootstrapping procedures. There was a significant indirect effect of stress on adaptive coping styles through resiliency, b = -0.22, Bca CI [-0.34, -0.12]. This represents a medium effect, k^2 = .16, 95% Bca CI [.087, .2430]. There was no significant indirect effect of resiliency on use of maladaptive coping styles. Findings indicate resiliency is positively correlated with adaptive coping and negatively correlated with maladaptive coping and stress. Resiliency mediated the relationship of stress on adaptive coping but not stress on maladaptive coping. This implies that the more resilient an individual is, the greater chance of using adaptive coping methods for stress. Future research should focus on enhancing resiliency so students can use more adaptive coping skills.

The Role of Resiliency in Stress and Coping Styles

Stress is a very prevalent issue for college students. (Brougham, Zail, Mendoza, & Miller, 2009). In a typical semester, 52% of college students report high levels of stress (Hudd et al., 2000). College students who report having more stress were not as likely to exercise, ate more junk food, and did not get enough sleep (Hudd et al., 2000). Stressors for college students include academics, finances, social relationships and familial relationships (Brougham et al., 2009). Specifically, academic performance has been noted to be impaired for students who reported high stress levels (Lumley & Provenzano, 2003; Struthers et al., 2000). Mahmound et al. (2012) investigated undergraduates' depression, anxiety, and stress and found that maladaptive coping and GPA significantly predicted increased stress. They also found that students with lower GPA were more depressed. The evidence for the substantial negative effects are clear, therefore it is important to explore and investigate ways in which we can help college students cope with stress.

Exploring the stress reactions of college students though identifying the events they find stressful and the coping mechanisms they used to manage their stress may lead to a greater understanding of how to reduce stress and promote well-being (Brougham et al., 2009). Coping is a set of cognitive and behavioral strategies used by an individual to manage the demands of stressful situations (Campbell-Sills, Cohan, & Stein, 2006; Zeidner & Saklofske, 1996). Brougham et al. (2009) state that coping strategies have often been put into broad categories including either problem or emotion focused coping. Coping strategies that include "action, acceptance, and positive reframing" are generally adaptive, while strategies that use "avoidance and emotional expression" when

responding to stress are maladaptive (Brougham et al., 2009, pg. 87). Brougham et al., examined and measured the sources of stress and coping measures of college students. The authors used the 5-factor revised COPE model to examine the relationship between specific stressors, coping, and sex. The researchers found that college men reported using adaptive coping mechanisms for financial stressors and social stressors (Brougham et al., 2009). Also, both male and female college students tend to use more emotion-focused coping than problem focused coping (Brougham et al., 2009). Zuckerman and Gagne (2003) found that of the five coping responses, the ones associated with positive outcomes included self-help, approach, and accommodation, while avoidance and self-punishment were associated with greater negative outcomes. Self-help, approach, and accommodation are thus adaptive coping strategies, while self-punishment and avoidance are maladaptive (Zuckerman & Gagne, 2003). Research has demonstrated that avoidance coping styles are associated with depression and anxiety (Compas et al., 2006; Hunter et al., 2007; Zuckerman & Gagne, 2003). Whereas, approach coping and depression are found to be negatively correlated with depression and anxiety (Li et al., 2006). Coping is important when looking at stressors for college students because students can cope in either an adaptive manner or maladaptive manner. Adaptive coping can be used for any stressor and combining it with resiliency can help significantly improve the well-being of college students.

One factor that can advance our understanding of coping is resiliency. Researching resiliency will help further explore what type of coping follows a stressor and how being resilient can play a role in that relationship. Individuals cope in a variety of ways but the aim of resiliency is to target adaptive coping styles and increase them.

Folkman and Moskowitz (2004) explain that coping is one's initial response to harmful stimuli while resilience is a set of processes that regulate how one copes with harm over a longer time period. Fletcher and Sarkar (2013), in their review of the concepts, definitions and theory of psychological resilience presented multiple definitions of resilience. Drawing from those definitions, resiliency is, for this project, defined as the ability of an individual to cope and positively adapt in the face of a variety of adverse situations and/or conditions (Luthar & Cicchetti, 2000; Luthar et al., 2000). Ng, Ang, and Ho (2010), in their examination of how resiliency mediated between coping and psychopathology, found that approach coping (which uses positive reappraisal and logical analysis to deal directly with the stressor) "works via resilience processes to decrease levels of anxiety (and) depression […]" (pg. 543). Resiliency encompasses stress and coping and also plays a role in mental health. Resiliency is an important issue because it is becoming a necessity in today's colleges (Hartley, 2011). Many college students are going to deal with stress and will likely cope differently. Resiliency may be able to determine what coping style (adaptive or maladaptive) students will use with a variety of stressors. A key reason why resiliency should positively correlate with more adaptive coping styles is because resiliency in its definition is a positive adaptation to a certain stressor or situation. Adaptive coping is associated with more positive outcomes than maladaptive coping which is why we believe that on a continuum of less resiliency to more resiliency, more resiliency should correlate positively with adaptive coping, which is associated with more positive outcomes (Zuckerman & Gagne, 2003). Less resiliency would then be associated with maladaptive coping, which is associated with greater negative outcomes (Zuckerman & Gagne, 2003). Research has not yet explored

resiliency in the different classes of college, which is why I will look at that in this study to see if there will be a significant result as to how resilient students in each class are.

Given past research and the need to explore how resiliency is related to stress and coping styles in college students, I hypothesize that:

1. Coping styles and resiliency will differ depending on year in college. Greater resiliency and adaptive coping styles will be higher for juniors and seniors than for freshmen and sophomores.
2. Resiliency will be positively correlated with adaptive coping, negatively correlated with maladaptive coping, and also negatively correlated with stress.
3. Resiliency will mediate the relationship between stress and coping styles in college students. The more resilient an individual is, the more they will use adaptive coping styles and because of that, have less stress.

Methods

Participants

Participants were 233 college students (32 men. 200 women, and 1 who indicated other), *M* age= 19.66; *SD* = 2.34 years). Ethnicities included 3 Hispanic, 1 Native American, 202 Caucasian, 7 African American and 10 Asian participants. Ten participants choose to identify as other other. The participants ranged in year in school, with the majority being freshmen (103 freshmen, 49 sophomores, 45 juniors, 34 seniors, and 2 other).

Procedure

Participants were recruited using classroom announcements, flyers, posting on social media websites, word-of-mouth, and participants recommending others to

participate. Participants provided their contact information and they received an email with a link to Qualtrics, a campus-based survey system. Prior to participating in the study, participants completed informed consent. Upon consent, participants were provided with standardized instructions for all measures. They then completed the survey anonymously. Procedures for the present study are in accordance with the Institutional Review Board at Winona State University and the American Psychological Association Code of Ethics. For their participation in the study, all participants were entered once into a drawing for a chance to win one of twenty-five, $20 Amazon.com gift cards.

Materials

The survey consisted of questionnaires about demographics, stress, coping, and resiliency (See Appendix B).

Demographic Questionnaire. Participants were asked to indicate their age, gender, number of completed course credits, year in school, ethnicity, GPA, and the number of hours they work per week. They were also asked to state their major(s) and, if applicable, their minor(s).

Stress. Stress was measured by the 14-item Perceived Stress Scale (PSS; Cohen et al., 1983). The PSS scale asked participants to identify how many times they have faced a number of stressors in the previous month on a scale of 0-4, 0 meaning "never" and 4 meaning "very often". Some example items include, "In the last month, how often have you found that you could not cope with all the things that you had to do?" and "In the last month, how often have you felt that things were going your way?" Cohen and colleagues (1983) report that Cronbach's alpha reliability of the PSS was .82. The alpha in the current study was .82.

Coping. Coping was measured by two scales including the Brief COPE (Brief COPE, Carver 1997). The Brief COPE includes 28 items and is a brief form of the original COPE inventory. The brief COPE asks participants to respond to each item by identifying the extent to which they have used that item to deal with stress. Participants respond using numbers on a scale of 1 (I haven't been doing this at all) to 4 (I've been doing this a lot). Examples from the Brief COPE include "I've been thinking hard about what steps to take" and "I've been giving up the attempt to cope." Scales within the Brief COPE were divided into maladaptive and adaptive coping groupings using methods demonstrated by Kasi et al. (2012). Carver reports that Cronbach's alpha reliability on the maladaptive scale within the Brief COPE was .81. Cronbach's alpha reliability on the adaptive scale within the Brief COPE was .86. The other scale that was used to measure coping is the Responses to Stress Questionnaire (Connor-Smith et al., 2000). The 57 items on this scale are divided into five factors on the scale and are rated from 1 to 4 (from to at all to a lot), which indicate how often each response was done by the individual. Cronbach's alpha for the five factors on the scale ranged from .73 to .89.

Resiliency. Resiliency was measured using the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003). The CD-RISC is made up of 25 items, each rated on a 5-point Likert scale of 0–4, 0 meaning "not true at all" and 4 meaning "true nearly all of the time". The total score ranges from 0-100 with higher scores reflecting greater resilience. Some examples are "I am able to adapt when changes occur" and "I tend to bounce back after illness, injury, or other hardships." Cronbach's alpha for the full scale was .93.

Data Analysis

The descriptives and frequencies for all variables were computed. A one way ANOVA was used to test whether coping styles and resiliency differed depending on year in college. For hypothesis two, Pearson's correlation was used to test whether resiliency was positively correlated with adaptive coping, negatively correlated with maladaptive coping, and negatively correlated with stress. A meditational analysis using bootstrapping procedures was used to test hypothesis three, whether resiliency would mediate the relationship between stress and coping styles in college students.

Results

To test hypothesis one that coping styles and resiliency will differ depending on year in college, two ANOVAs were computed. There was no significant difference in resiliency $F(4, 216)= 1.2$, $p=.31$ or adaptive coping $F(4)= 1.3$, $p= .26$ according to school year. Hypothesis one was not supported and analysis suggest that neither resiliency nor adaptive coping was higher for juniors and seniors compared to freshmen and sophomores (means can be seen in Table 1).

To test the hypothesis that resiliency will be positively correlated with adaptive coping, negatively correlated with maladaptive coping, and also negatively correlated with stress, we employed Pearson's bivariate correlation. There was a significant positive correlation between resiliency and adaptive coping $r=.29$, $p< .001$. As adaptive coping increased, resiliency increased. There was a significant negative correlation between maladaptive coping and resiliency $r=-.33$, $p<.001$. As maladaptive coping increased, resiliency decreased. There is a significant negative correlation between stress and resiliency $r=-.47$, $p<.001$. As stress increased, resiliency decreased. Hypothesis two

was supported and resiliency was positively correlated with adaptive coping, negatively correlated with maladaptive coping, and negatively correlated with stress.

To test the hypothesis that resiliency will mediate the relationship between stress and coping styles in college students, a meditational analysis testing the indirect effect of resiliency using bootstrapping procedures was used (Preacher & Hayes, 2008) for both adaptive and maladaptive coping styles. The relationship between stress and adaptive coping was mediated by resiliency. There was a significant indirect effect of stress on adaptive coping through resiliency, b = -0.22, Bca CI [-0.34, -0.12]. This represents a medium effect, k^2 = .16, 95% Bca CI [.087, .2430]. For the effects of stress on maladaptive coping, there was not a significant indirect effect of resiliency, b = 0.197, Bca CI [-.027, .070]. This represents a relatively small effect, k^2 = .03, 95% Bca CI [.001, .0886]. See Figure 1 for mediational analyses.

Discussion

The purpose of this study was to further research on resiliency and its relationship with stress and coping. The present findings fail to support the hypothesis that coping styles and resiliency will differ depending on year in college. Results did support the hypothesis that resiliency was associated with stress, adaptive and maladaptive coping. There was support that as resiliency went up, so did adaptive coping but as stress and maladaptive coping went down, resiliency went up. Findings also showed an indirect effect of stress on adaptive coping though resiliency. There was not, however, a significant indirect effect of stress on maladaptive coping though resiliency.

We hypothesized that resiliency and adaptive coping would be greater in upperclassmen. This did not hold to be true. Although it makes logical sense that

resiliency and adaptive coping would be better as students go from year to year, it may not follow that just because upperclassmen have stress, they do not necessarily use resiliency and adaptive coping skills. Also, the hypothesis is based on the assumption that repeated exposure to stress would lead students to use adaptive coping skills to better deal with their stressors which in turn would lead them to being more resilient. In actuality, exposure to stress may not change resiliency levels or likelihood of using adaptive coping measures if resiliency and adaptive coping must be taught to an individual or developed as a skill. If a student was never taught to use adaptive coping skills to manage their stress in their college career then it makes sense that there would be no difference in the levels of adaptive coping and resiliency displayed between freshmen year and senior year. Dwyer and Cummings (2001) report that upperclassmen may cope better than freshmen because upperclassmen tend to have better social support than freshmen. We did not study this as part of the present research but social support may be a factor that would have made a difference in coping across class years from freshmen to seniors.

It was expected that resiliency would mediate the relationship between stress and maladaptive coping. This hypothesis was not, however, supported. It may be because resiliency focuses on good coping styles and is learning how to manage stress though being proactive. On the other hand maladaptive coping is a passive behavior. When looked at from that perspective, it could explain why resiliency had no indirect effect on maladaptive coping. It could also be that resiliency is case conditional and depends on the stressor. Resiliency would be a good skill to have when trying to reach a goal while

facing setbacks but would not make sense if the stressor were loss of a good parking space.

It was found that resiliency was positively correlated with adaptive coping, negatively correlated with maladaptive coping, and also negatively correlated with stress. These findings partially support previous research that indicates students with higher stress levels use coping strategies of all kinds (Dwyer & Cummings, 2001). The current research goes beyond what has been previously supported by exploring what types of coping specifically that students use in relation to stress. Resiliency by its definition is the ability to cope and positively adapt. When an individual is resilient they are likely using adaptive coping skills because it has more positive outcomes. Since the repeated use of adaptive coping skills would likely result in an individual being resilient, it follows that resiliency is positively correlated with adaptive coping. On the other hand, resiliency was found to be negatively correlated with maladaptive coping and stress in the current study. The current findings are in line with those of Dwyer and Cummings (2001) who found a significant positive correlation between avoidance focused coping (maladaptive coping) with stress. This indicates that when an individual is resilient, they are using less maladaptive coping skills. Resiliency is a form of dealing with stress so it follows that if an individual is resilient, they are effectively dealing with their stress.

Stress can impact college students in a variety of ways including academics and mental health (Lumley and Provenzano, 2003; Struthers et al., 2000; Mahmound et al., 2012). When stressed, students can use either adaptive or maladaptive coping strategies. Adaptive coping strategies include self-help, approach, and accommodation, while maladaptive coping strategies include avoidance and self-punishment (Zuckerman &

Gagne, 2003). Our findings show that students that are more resilient are likely to use adaptive coping strategies and less likely to use maladaptive coping strategies. The indirect effect of stress on adaptive coping through resiliency means that resiliency can explain how and why people may use adaptive coping strategies in response to stress. Both results indicate that if people working with college students (i.e. counselors, mentors, educators, and advisors) can teach students how to be resilient, they are more likely to use adaptive coping strategies such as self-help and accommodation when they are stressed. These findings are similar to those of Ng, Ang, & Ho (2012). They also found that resiliency processes include skills that can be thought such as positive thinking and help-seeking, which are adaptive coping strategies (Ng, Ang, & Ho, 2012). Their study also found that approach coping, which in this study was defined as an adaptive coping style, works via resilience to decrease depressing, anxiety, anger, and aggression (Ng, Ang, & Ho, 2012). Anger, aggression, and anxiety could all be triggered by stress or present as stress in an individual, which make the findings of their meditational model very similar to that of the current research.

Some of the limitations of the present study include lack of generalization and the self-report method used. This study focused on college students, looking at their stress, coping, and resiliency. The results from this study are not generalizable to other groups of individuals such as children or older adults. The other limitation of the study is that the results were based completely off of self-report surveys. This means that the answers to the survey questions are subjective because the participants answered them based on their assessment of themselves. Going forward it is important that research on resiliency keep progressing. Possible research topics could explore resiliency and mental health or

resiliency of different types of college students (i.e. freshmen, transfer, international, first generation, etc.) and likelihood of graduation.

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Table 1. *Means and Standard Deviations for Study Variables.*

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	Class Year	N	Mean	Std. Deviation
Resiliency	Freshmen (0-29cr.)	99	85.9	13.3
	Sophomore (30-59 cr.)	42	88.5	16.1
	Junior (60-89 cr.)	44	82.4	14.2
	Senior (90+ cr.)	33	87.9	14.6
	Total	221	85.9	14.4
Adaptive	Freshmen 0-29 cr.)	104	40.5	9.3
	Sophomore (30-59 cr.)	47	42.0	8.5
	Junior (60-89 cr.)	44	41.7	6.9
	Senior (90+ cr.)	33	43.9	8.2
	Total	231	41.6	8.6

Table 2. *Correlations Among Stress, Coping, and Resiliency.*

	1.	**2.**	**3.**	**4.**
1. Perceived Stress		-.47**	.63**	-.03
2. Resiliency			-.33**	.30**
3. Maladaptive Coping				.25**
4. Adaptive Coping				1

*p < .05; **p <.01; ***p <.001

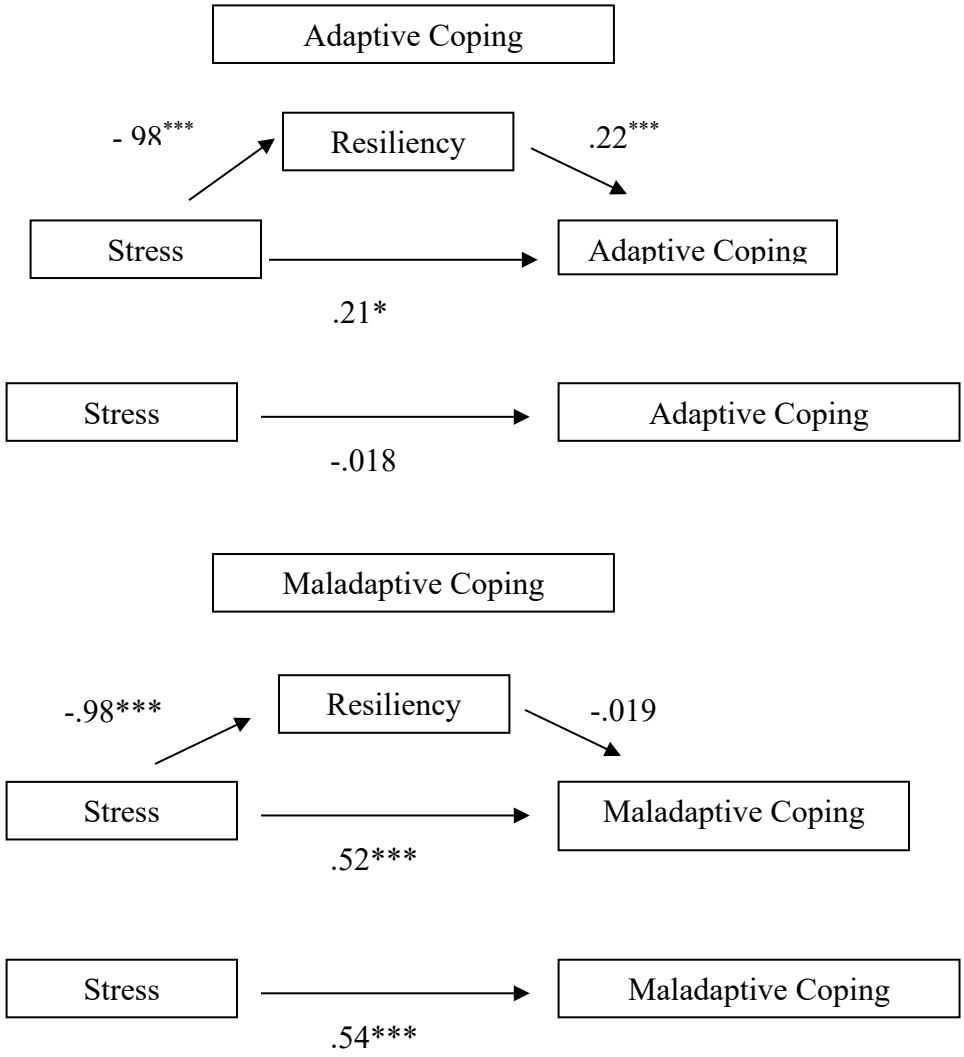

Figure 1. Indirect effects of stress on coping through resiliency for adaptive and maladaptive coping. *Note.* $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

WINONA STATE UNIVERSITY
UNDERGRADUATE STUDENT RESEARCH & CREATIVE PROJECTS FINAL REPORT

Electronically submit complete final report ten (10) days following completion of project to Grants & Sponsored Projects (grants@winona.edu).
Hover over fill-able fields for additional guideline and completion information.

Student Name: Judith Ohochukwu

Student Email: JOhochukwu12@winona.edu

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Title of Project: The Effect of Resiliency in Stress and Coping Styles

Project Abstract:

Stress is a prevalent issue for college students and is correlated with worsened health and lower GPA. To deal with stress, college students use adaptive or maladaptive coping strategies. Exploring the effects of resiliency on coping behaviors may help promote using more adaptive coping strategies to deal with stress. Together, resiliency, stress, and coping are understudied. The present study sought to examine the relationship among resiliency, stress, and coping strategies. Participants (N=236, Mage=19.62, SD=2.34) were emailed a survey and responded to demographic, stress, coping, and resiliency questions. Coping styles and resiliency did not differ depending on year in college. Neither resiliency nor adaptive coping was higher for upperclassmen than underclassmen. Resiliency was negatively correlated with maladaptive coping and stress but positively correlated with adaptive coping. The mediation effect of resiliency was tested using bootstrapping procedures. There was a significant indirect effect of stress on adaptive coping styles through resiliency, b = -0.22, Bca CI [-0.34, -0.12]. This represents a medium effect, k2 = .16, 95% Bca CI [.087, .2430]. There was no significant indirect effect of resiliency on use of maladaptive coping styles. Findings indicate resiliency is positively correlated with adaptive coping and negatively correlated with maladaptive coping and stress. Resiliency mediated the relationship of stress on adaptive coping but not stress on maladaptive coping. This implies that the more resilient an individual is, the greater chance of using adaptive coping methods for stress. Future research should focus on enhancing resiliency so students can use more adaptive coping skills.

The student-authored final report **MUST** include each of the following (check boxes to verify inclusion of each component):

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☑ A copy of the project end product, appropriate to the standards of the discipline

Applicant Signature: Judith Ohochukwu

Date: 05/09/2015

Faculty Sponsor Signature: Amanda Brouwer

Date: 05/09/2015

Submit complete reports electronically to Grants & Sponsored Projects (grants@winona.edu).

A deans' sub-committee makes decisions on Undergraduate Student Research & Creative Projects proposals.

Note that a copy of the project end product will be forwarded to Krueger Library for archival purposes.